

Technical Attachment

WFO Midland's Expansion of School Outreach Through Volunteerism

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In 2004, WFO Midland established an *Outreach Team* to enhance the local Warning Coordination and Hazard Awareness Program. The purpose of this team is to heighten public awareness of the NWS mission and services through the completion of high-impact outreach projects. Its establishment provides an important benefit: to consolidate individual initiatives into organized team efforts that solicit broader participation among the staff. This ensures a successful outcome for a greater number of meaningful outreach projects.

The team quickly recognized that an opportunity to work with children would provide an important link to the next generation of NWS customers. With this in mind, it was decided that an effective method of demonstrating the NWS commitment to the citizens of west Texas and southeastern New Mexico was through expanded involvement with local school districts. The first major undertaking involved the WFO Midland staff in a program sponsored by the Midland Independent School District (MISD) to promote participation of local professionals in the education of Midland's youth.

A total of seven WFO Midland staff members volunteered time and support to an after-school program during the 2004-2005 academic year. NWS personnel mentored between thirty and forty fifth and sixth grade students from Scharbauer Elementary School in science and math related topics. The Scharbauer campus was identified by school officials as having relatively low standardized test scores in physical science and mathematics. In an effort to improve this situation, WFO Midland meteorologists volunteered to tutor small groups of students (usually four to ten students) for one hour, twice a week. The tutoring consisted of both mini-lectures prepared by the office volunteers, and reviews of pre-test material assigned by the MISD teachers. Although individual student results from the Texas Assessment of Knowledge and Skills (TAKS) tests were unavailable, educators report that any involvement by volunteers and local science professionals in the educational process has been known to have positive impacts on students' performance.

The second phase of WFO Midland's volunteer effort at the MISD involved organizing a curriculum and instructing a two week Weather Forecasting School at Carver Elementary. The Carver campus is home of the Gifted Education of Midland (GEM) program. In the GEM program, facilitators work four days a week with elementary students ranking academically in the school district's top five percent.

For two weeks during the spring semester, WFO Midland senior forecaster Doug Cain delivered daily lectures to the GEM program's fifteen fourth grade students. Mr. Cain taught the students how to observe current weather conditions using a digital home weather station. This weather station was donated by Mr. Cain, and was assembled and calibrated by WFO Midland ESA Wayne Patterson. Students also learned to obtain and examine weather data from the NWS Midland website, which aided in the preparation of a basic weather forecast. By the end of the two week session, the students were able to identify cold and warm fronts on an analyzed weather map. They also could describe the flow around high and low pressure systems and match them with the type of weather they usually produce. The students were then tasked with taking daily observations and preparing basic temperature and probability of precipitation forecasts each school day for the following four weeks, reinforcing what was learned through the lectures.

The *Outreach Team* was able to involve a third of WFO Midland's staff in volunteer work that impacted the education of approximately fifty public school students during the 2004-2005 academic year. Another *Outreach Team* success came in April 2005, when WFO Midland hosted our local media partners for a Digital Services and Polygon Warning Cookout. Future projects under consideration include a litter control partnership with Keep Midland Beautiful and the development of a NWS display at the Museum of the Southwest's Children's Museum.



WFO Midland senior forecaster Doug Cain instructs GEM fourth graders on taking and recording weather observations using a digital home weather station he donated to the Midland Independent School District.



WFO Midland forecaster Todd Lindley helps fourth grade students at the Carver Elementary GEM Center navigate through forecast information on the WFO Midland website.